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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,936	07/08/2002	Peter Knoll	1980	3901

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT PAPER NUMBER

1773

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/030,936

Applicant(s)

KNOLL ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 67-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 67 is/are allowed.
- 6) ☒ Claim(s) 68-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/17/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Drawings***

2. The drawings were received on 17 March 2004. These drawings are acceptable.

#### ***Claim Rejections - 35 USC § 112***

3. Claims 69-72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claims 69-72 are rendered indefinite because they each depend from cancelled claim 1.
5. Claims 69-72 are further rendered indefinite because the meaning of the phrase "in which an organic, electrically conductive, transparent layer on a substrate" on lines 1-2 of each of the claims is unclear.
6. Claims 69-71 are further rendered indefinite because it is unclear whether the term "a layer" on line 3 of the claims refers to the organic, electrically conductive, transparent layer or another layer in addition to the organic, electrically conductive, transparent layer.
7. The applicants are requested to thoroughly review the language of claims 68-72 since the claims appear to also include limitations that are either redundant (e.g., that the polymer is modified with photo-cross-linkable substituents in claim 71) or otherwise unclear (e.g., is the

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polymer of claim 71 is cross-linked by irradiation in general or irradiation with linearly polarized light).

***Claim Rejections - 35 USC § 102***

8. Claim 68 is rejected under 35 U.S.C. 102(b) as anticipated by Eguchi (U.S. Patent 5,498,762).

Eguchi teaches a liquid crystal device having an alignment film that comprises at least two layers of electroconductive polymers (column 3, lines 49-56). The alignment film is transparent (column 6, lines 61-64). Since the alignment film of Eguchi contains at least two layers, one of the layers will read on a bonding agent since it bonds the other layer to the electrode.

***Allowable Subject Matter***

9. Claim 67 is allowed.

10. Claims 69-72 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. The following is a statement of reasons for the indication of allowable subject matter.

Claim 67 is directed to a layer of an organic, transparent, electrically conductive polymer on a substrate wherein the polymer is photo-cross-linked and contains photo-cross-linkable substituents. The inventions of claims 69-72 all are directed to a method of forming an oriented layer on a substrate wherein the layer comprises an organic, electrically conductive, transparent polymer. In claim 69, the polymer is irradiated with linearly polarized light to polymerize and

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oriented it. In claims 70 and 71, the polymer is modified with photo-crosslinkable substituents and then crosslinked by irradiation. In claim 72, the layer further comprises a bonding agent wherein the bonding agent and polymer anisotropically crosslink when irradiated with linearly polarized light.

Eguchi, Escher et al., and Gluck et al. represent the closest prior art. However, none of these references teach or fairly suggest orienting their polymer layer by irradiating the layer with polarized light. Moreover, none of the references teach or fairly suggest attaching a photo-crosslinkable substituent to the electrically conductive polymer then crosslinking the polymer by irradiation.

#### ***Response to Arguments***

12. Applicant's arguments filed 17 March 2004 have been fully considered but they are not persuasive.

Regarding claim 68, the applicants argue that a separate bonding layer does not correspond to a bonding agent that is contained in the claimed layer.

This is not persuasive for the following reasons. It is the policy of the PTO to give claims their broadest reasonable interpretation. Claim 68 as written does not require only that the layer "includes" a bonding agent. This reads not only on a bonding agent homogeneously mixed within the layer but also to a bonding agent present at the interface where the bond occurs. Moreover, the "layer" recited in the claims is not required to be a monolayer but could also be read to include a layer with multiple strata.

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***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (571) 272-1516. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Ramsey Zacharia**  
**Primary Examiner**  
**Tech Center 1700**